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2
3 In the claims:
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5 1 (Currently amended) A device, comprising:
6 an input fiber to guide an input optical beam;
7 a stationary reflector having a reflective surface
8 that is partially transmissive to light, said reflector
9 positioned to reflect a part of the input optical beam at
10 said reflective surface as a reflected optical beam and to
11 transmit a part of the input optical beam as a transmitted
12 optical beam;
13 an output fiber positioned to receive and guide the
14 reflected optical beam as an output optical beam;
15 an optical detector positioned to receive the
16 transmitted optical beam and to produce a detector output;
17 a magnetic field substantially axial to said input of
18 said output optical fiber;
19 a variable optical attenuator positioned in an optical
20 path between said reflective surface and one of said input
21 and said output fibers to attenuate light in response to a
22 control signal;
23 said variable optical attenuator comprising ~~said input~~
24 ~~fiber and said output fiber both having exposed fiber ends~~

1 ~~adjacent to each other and to a reflective~~ a movable
2 shutter placed ~~between~~in front of at least one of said
3 input or said output fiber and said stationary reflector,
4 said movable shutter interacting with said optical beam,
5 said ~~reflective~~ movable shutter supported by a current
6 carrying wire, ~~said wire perpendicular to a magnetic field;~~
7 ~~such that~~
8 whereby said magnetic field and a magnetic field
9 produced by said current carrying wire interact, thereby
10 causing a movement of said ~~reflective~~ movable shutter ~~on~~
11 ~~said current carrying wire is responsive to the a magnetic~~
12 ~~field produced by said current carrying wire and said~~
13 ~~magnetic field;~~
14 ~~said control signal being coupled to the current in~~
15 ~~said current carrying wire.~~

16

17 2 (original) The device as in claim 1, wherein said
18 variable optical attenuator is positioned to attenuate the
19 input optical beam incident to said reflective surface, and
20 wherein the detector output indicates a power level of the
21 output optical beam.

22

23 3 (withdrawn) The device as in claim 1, wherein said
24 variable optical attenuator is positioned to attenuate the

1 reflected optical beam, and wherein the detector output
2 indicates a power level of the input optical beam.

3

4 4 (cancelled) The device as in claim 1, wherein said
5 variable optical attenuator is a micro attenuation
6 controllable element.

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8 5 (withdrawn) The device as in claim 1, wherein said
9 variable optical attenuator attenuates light by scattering
10 light.

11

12 6 (original) The device as in claim 1, wherein said
13 variable optical attenuator attenuates light by reflecting
14 light.

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16 7 (withdrawn) The device as in claim 1, wherein said
17 variable optical attenuator attenuates light by absorbing
18 light.

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20 8 (original) The device as in claim 1, further
21 comprising a housing to hold said optical detector, said
22 reflector, said variable optical attenuator, said input and
23 said output fibers as an integrated package.

24

1 9 (original) The device as in claim 8, said housing
2 has a first end to hold said optical detector and said
3 reflector, and a second, opposing end to hold said input
4 and said output fibers.

5

6 10 - 12 (Cancelled)

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8 13 (Currently amended) A device, comprising:
9 a housing having a first end and a second opposing
10 end;
11 an optical detector engaged to said first end;
12 a stationary collimator lens having a flat end lens
13 facet in said housing to face said optical detector and to
14 transmit a fraction of light to said optical detector;
15 a magnet in said housing to produce a magnetic field;
16 a capillary body being in said housing to hold input
17 and output fibers that exit said housing at said second
18 opposing end and having an end facet facing said collimator
19 lens to expose end facets of said input and output fibers
20 to said collimator lens and to the magnetic field, wherein
21 said collimator is configured and spaced from said end
22 facet of said capillary body to collimate light from one
23 fiber and to focus reflected light by said flat end lens
24 facet to another fiber;

1 a conductive wire movably fixed to said capillary body
2 to have a wire portion across said end facet of said
3 capillary body, said wire movable along said end facet when
4 an electric current is supplied to said wire to interact
5 with said magnetic field; and

6 a shutter engaged to said wire portion and movable
7 along with said wire to intercept a beam that is either
8 output by said input fiber or received by said output fiber
9 to attenuate the beam.

10

11 14 (withdrawn) The device as in claim 13, wherein said
12 shutter scatters the beam when intercepting the beam.

13

14 15 (withdrawn) The device as in claim 13, wherein said
15 shutter absorbs the beam when intercepting the beam.

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17 16 (original) The device as in claim 13, wherein said
18 shutter reflects the beam when intercepting the beam.

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20 17 (original) The device as in claim 13, further
21 comprising first and second adhesive pads on sides surfaces
22 of said capillary body to bond two parts of said wire to
23 said capillary body as pivot points for motion of said
24 wire.

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2 18 (original) The device as in claim 17, wherein said
3 adhesive pads are elastic and soft to reduce effects of
4 mechanical shocks and vibrations to said wire and said
5 shutter.

6

7 19 (original) The device as in claim 18, wherein said
8 adhesive pads are made of an epoxy.

9

10 20 (original) The device as in claim 13, further
11 comprising a control unit the controls the electric
12 current in said wire in response to an output of said
13 optical detector.

14

15 21 (original) The device as in claim 13, wherein said
16 collimator lens is a GRIN lens.

17

18 22 (withdrawn) The device as in claim 13, wherein said
19 collimator lens is a C lens.

20

21 23 (original) The device as in claim 13, wherein said
22 flat end lens facet is coated with a reflective coating
23 that is partially transmissive.

24

1 24 (withdrawn) The device as in claim 13, further
2 comprising a partially transmissive mirror engaged to said
3 flat end lens facet.